

PLASTIC BAG HANDLE

CROSS REFERENCE TO RELATED APPLICATIONS

The present application claims priority of U.S. provisional applications, Ser. No. 60/438,927, filed Dec. 23, 2002; and Ser. No. 60/464,289, filed Apr. 22, 2003, which are hereby incorporated herein by reference in their entireties.

FIELD OF THE INVENTION

The present invention relates generally to a handle device, and more particularly to a handle device that may hold several small plastic bags, such as the type commonly used at grocery stores or other convenience markets or the like.

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BACKGROUND OF THE INVENTION

It is common for individuals to attempt to transport many articles at one time by placing several articles in bags. These bags, such as plastic bags for groceries or the like, most often have handles attached to them or integral with the bags for ease of transport of the bags. However, in many instances an individual will attempt to carry several bags at a time.

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Typically, a customer may make a trip to the local grocery store where purchases may be placed into plastic bags for the customer to transport home. Although the bags may be convenient for carrying several articles, typically more than one bag is necessary to hold and carry all purchases made. This may necessitate the customer attempting to carry several plastic bags, often weighted down with many items, at one time. Attempting to hold these bags in the user's bare hands can be painful and difficult.

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It is known in the art to use a holder or handle upon which several bags may be placed. These handles may be ergonomically designed to allow for ease of use and to reduce the strain on or discomfort to the user's hand. One type of known holder provides a hollow, generally tubular shell which defines a space that contains the bags and which is then grasped by the user's hand. An example of such a bag carrier handle is disclosed in U.S. Pat. No. 5,651,575. However, such a device, and other devices similar to this device, are typically not very ergonomic and are typically bulky and provide little additional comfort. Another known bag handle includes a hook or arm extending from a handle, where the hook may insert through the bag handles to support the bags. An example of such a device is disclosed in U.S. Pat. No. 5,645,306. Although such devices are generally easy to use, they are often limited as to the amount that they can carry and may provide little assistance in securing the bags onto the handle. Another similar device provides a locking mechanism for securing the

bags on the carrier, such as disclosed in U.S. Pat. No. 5,441,323. The locking mechanism, however, is a separate ring that is not permanently integrated into the bag carrier.

Also, all of the above devices may be expensive and are designed to be reusable, such that the store or facility may wish to have them returned for further use after the customer has  
5 carried their bags to their vehicle. This may not be practical because the customers will not want to walk back into the store to return the devices when they are done with them.

Therefore, there is a need in the art for a bag handle device which overcomes the shortcomings of the prior art.

#### SUMMARY OF THE INVENTION

10 The present invention provides a bag handle device that creates a platform into which bag handles may be securely retained during transportation. The present invention may reduce stress on the user's hands when carrying several bags. Additionally, the present invention provides the device in a unitary, low-cost construction using a low-cost material. The device thus may be disposable, but may also be durable enough to allow reuse if desired.

15 According to an aspect of the present invention, a bag handle device may insert through one or more handles of one or more bags and may hold and carry the bags. The bag handle device includes a flexible unitary member having first and second ends and a handle portion extending at least partially between the first and second ends. The second end has an aperture therethrough. The first end is adjustable between a first orientation, where the first  
20 end is at least partially insertable through the aperture so that the flexible unitary member defines a closed loop, and a second orientation, where the first end is not readily retractable from the aperture. The first end is at least partially insertable through the aperture when in the first orientation and is adjustable to the second orientation to retain the flexible unitary member in the closed loop.

25 The first end of the bag handle device may be foldable into the first orientation and may be biased toward the second orientation, such that the first end adjusts toward the second orientation when the first end is inserted at least partially through the aperture and released. The handle portion may be contiguous to the first end, and may be foldable to form a generally U-shaped handle portion when the first end is folded into the first or second orientation. The first end may include at least one notch for engaging at least one wall of the aperture when the first end is adjusted to the second orientation. The at least one notch limits movement of the first end relative to the second end when the first end is in the second orientation, so as to retain the bag handle device in the closed loop.  
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5        Optionally, the first end may comprise a tab and the second end may comprise a slot for receiving the tab. The slot may comprise a first slot section configured to receive the tab when the tab is in the first orientation and a second slot section configured to limit retraction of the tab through said slot when the tab is in the second orientation. The tab may be twisted or rotated between the first and second orientations to align with a respective one of the first and second slot sections.

10      The bag handle device may include a body portion extending from the handle portion. The body portion may be flexible to form an arc to define the closed loop between the first and second ends. The handle portion may have a greater width than the body portion. The handle portion may provide a generally straight or flat handle portion when the body portion flexes to define the closed loop.

15      According to another aspect of the present invention, a method for carrying one or more bags includes providing a flexible unitary handle member having first and second ends and a handle portion extending at least partially between the first and second ends. The second end has an aperture therethrough. The handle member is inserted through at least one handle of at least one bag, and the first end of the handle member is inserted through the aperture so that the flexible unitary handle member defines a closed loop. The first end is adjusted such that the first end is not readily retractable from the aperture to retain the flexible unitary handle member in the closed loop. The handle portion may be grasped to carry the at least one bag.

20      Optionally, the method may include folding the first end to form a first orientation in which the first end is insertable through the aperture. The first end may be adjusted or unfolded to engage at least one wall of said aperture.

25      Optionally, the first end may be inserted through the aperture by inserting a tab through a first section of the aperture. The first end may then be adjusted by twisting or rotating the first end to align the first end with a second section of the aperture, whereby the tab may not be readily retractable through the second section.

30      According to another aspect of the present invention, a bag handle device may be inserted through one or more handles of one or more bags and may hold and carry the bags. The bag handle device includes a flexible unitary member having first and second ends, a handle portion extending from the first end and at least partially between the first and second ends, and a flexible body portion extending between the handle portion and the second end. One of the first and second ends has an aperture therethrough and the other of the first and second ends has a locking member. The locking member is adjustable between a first

orientation, where the locking member is at least partially insertable through the aperture so that the flexible unitary member defines a closed loop, and a second orientation, where the locking member is not readily retractable from the aperture. The locking member is at least partially insertable through the aperture when in the first orientation and is adjustable to the

5 second orientation to retain the flexible unitary member in the closed loop.

In one form, the locking member may be adjustable via folding the locking member into the first orientation and unfolding the locking member to the second orientation when the locking member is at least partially inserted through the aperture. In another form, the locking member may comprise a tab, and the aperture may comprise a first aperture section configured to receive the tab when the tab is in the first orientation and a second aperture section configured to limit retraction of the tab through the aperture when the tab is in the second orientation.

10 Therefore, the present invention provides a unitary bag handle device for securing and carrying one or more bags. The bag handle device may be flexible and may comprise a low

15 cost structure, such that the bag handle device may be adaptable to a variety of bags or number of bags and may be disposed after a single use. The bag handle device may be formed of a flexible and durable polymeric material and may be re-used if desired. The bag handle device may be inserted through the bag handles and may be secured in a closed loop to retain the bags to the bag handle during transportation of the bags. The handle portion of

20 the bag handle device may provide a wide, generally flat grasping area to provide a

comfortable grasping area for the user to grasp during use and carrying of the bag handle device. Also, as a result of securely retaining the bag handles, the bag handle device of the

present invention may prevent the bags from changing their orientation during transportation, thereby inhibiting or limiting or substantially precluding spillage of the contents from an

25 individual bag.

These and other objects, advantages, purposes and features of the present invention will become apparent upon review of the following specification in conjunction with the drawings. Further areas of applicability of the present invention will become apparent from

30 the detailed description provided hereinafter. It should be understood however that the detailed description and specific examples, while indicating preferred embodiments of the invention, are intended for purposes of illustration only, since various changes and

modifications within the spirit and scope of the invention will become apparent to those skilled in the art from the following description of the preferred embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a bag handle device in accordance with the present invention, with the bag handle device in its unlocked or open position;

FIG. 2 is a side view of the bag handle device of FIG. 1;

5 FIG. 3 is an end elevation of the bag handle device of FIGS. 1 and 2, with the end of the bag handle device adjusted or folded over;

FIG. 4 is a side elevation of the end of the bag handle device of FIG. 3;

FIG. 5 is an end elevation of the end of the bag handle device of FIG. 3, with the end being inserted into the opposite end of the bag handle device;

10 FIG. 6 is a side elevation of the ends of the bag handle device of FIG. 5;

FIG. 7 is an end elevation of the ends of the bag handle device of FIGS. 5 and 6, with the inserted end being at least partially unfolded to secure the inserted end within the opposite end of the bag handle device;

15 FIG. 8 is an end elevation of the bag handle device of the present invention in its closed position with bags placed on the bag handle device;

FIG. 9 is a side elevation of the bag handle device of FIG. 8;

FIG. 10 is a plan view of the ends of two bag handle devices of the present invention with a perforated end attachment of the bag handle devices at the ends;

20 FIG. 11 is a plan view of two bag handle devices of the present invention with a perforated side attachment along the adjacent sides of the bag handle devices;

FIG. 12 is a plan view of another bag handle device in accordance with the present invention, in its unlocked or open position;

FIG. 13 is a side elevation of the bag handle device of FIG. 12;

25 FIG. 14 is an end elevation of the bag handle device of FIGS. 12 and 13 in its closed position with bags placed on the bag handle device;

FIG. 15 is a side elevation of the bag handle device of FIG. 14;

FIG. 16 is a plan view of the ends of the bag handle device present invention with the tabbed end inserted into the T-shaped slotted opposite end of the bag handle device;

FIG. 17 is a side elevation of the ends of the bag handle device of FIG. 16;

30 FIG. 18 is a plan view of the tabbed end of the bag handle device of the present invention;

FIG. 19 is a plan view of the slotted end of the bag handle device of the present invention;

FIG. 20 is a plan view of the ends of two of the bag handle devices of FIGS. 12-19 with a perforated end attachment of the bag handle devices at the ends;

FIG. 21 is a plan view of two of the bag handle devices of FIGS. 12-19 with a perforated side attachment along the adjacent sides of the bag handle devices;

5 FIG. 22 is a plan view of another bag handle device in accordance with the present invention, with the bag handle device in its unlocked or open position;

FIG. 23 is a perspective view of a dispensing container for holding and dispensing the bag handle device of the present invention, as mounted to a bag dispensing frame;

10 FIG. 24 is a front elevation of the dispensing container of FIG. 23, with the mounting tab of the container in its open position;

FIG. 25 is a side elevation of the dispensing container of FIGS. 23 and 24; and

FIG. 26 is a side elevation of the dispensing container of FIGS. 23-25 with the mounting tab folded downward to mount the dispensing container to the bag dispensing frame.

15 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings and the illustrative embodiments depicted therein, a bag handle device 10 comprises a continuous piece of material which may insert through the handle portion of one or more plastic bags and may be connectable at its ends to secure the bag handle device around the bag handles (FIGS. 1, 2, 8 and 9). Bag handle device 10

20 includes a widened handle portion or region 12, which has a notched end 14, a slotted end 16 opposite the notched end 14, and a middle or connecting or body portion 20 extending between the handle portion 12 and the opposite end 16 of the bag handle device. Notched end 14 includes a notch 14a, 14b at each side of the end 14, while slotted end 16 includes an opening or aperture 16a therethrough. Handle portion 12 may be embossed longitudinally

25 with depressions or fold lines 22a and 22b that define or extend along a pair of side portions or wings 12a extending along a center portion 12b of handle portion 12. The material from which the bag handle device may be manufactured may allow for enough flexibility to enable a user to adjust or fold the wings 12a along the embossed depressions 22a, 22b until the outer edges of the wings approach one another or come in contact with one another (such as shown in FIGS. 3 and 5). The process of adjusting or folding the wings of the notched end changes the shape of the notched end to facilitate insertion of the first or notched end 14 into the second or slotted end 16, as discussed below.

The bag handle device 10 may comprise a continuous strip with a foldable segment (the handle portion or segment 12) and a non-foldable segment (the body portion or segment

20). Body portion 20 may be narrower than the handle portion 12 (such as, for example, approximately one-third the width of the handle portion as shown in FIG. 1), and may be generally the same thickness as handle portion 12 (as can be seen in FIG. 2). In the illustrated embodiment, the length of body portion 20 is approximately one and one half times the length of handle portion 12. The length of the body portion 20 is preferably sufficient to allow the inherent flexibility of the material to describe or define an arc in body portion 20 that is sufficient to accommodate or allow insertion of four fingers and/or palm of the user inside the arc plus the material of one or more bag loop handles. As discussed below (and as shown in FIGS. 8 and 9), one or more bag loop handles 24 may rest along the body portion 20, and a person's hand (or four fingers of the person's hand) may insert through the loop formed by bag handle device 10 when the device 10 is in the closed position for use.

10 The handle portion 12 may provide a generally straight or flat handle surface for the user to grasp, which may provide a comfortable handle for grasping and carrying one or more plastic bags. The length of the handle portion may be approximately the width of a user's palm plus sufficient additional length to accommodate the dimensions of the notched end. The width of the handle portion or segment 12 may be approximately three times the width of the body portion or segment 20. The bag handle device 10 may be formed with the handle portion 12 having two longitudinally embossed depressions 22a, 22b, such as approximately one-half the thickness of the device, and generally equally spaced to divide the width of the handle portion generally into thirds.

15 The bag handle device may also be formed with the two notches 14a, 14b in the foldable handle portion 12, one on each side of the device or strip and located near the end of the strip, such as at approximately one-sixth of the width of the foldable handle portion from the end of the continuous strip, to define the notched end 14 of the continuous strip or device 10. The shape of each notch may be approximately an equilateral triangle with each side dimension approximately one-sixth the width of the foldable handle portion.

20 The bag handle device or strip 10 may further be formed with a rectangular-shaped form on the slotted end 16 of the non-foldable body portion or segment 20 to define the slotted end of the continuous strip or device 10. The rectangular-shaped form may be approximately the same width and length as the width of the foldable handle portion. The rectangular-shaped form includes a rectangular hole or opening or aperture 16a positioned or centered in the slotted end 16. The dimensional width of the rectangular hole may be approximately equal to one-third the width of the foldable handle portion.

The bag handle device may be closed around or through the bag handles to form a closed loop which may hold the bags and may allow the user to grasp the handle portion of the device. The bag handle device may be closed in three steps. First, the handle portion is folded longitudinally along the fold lines. Second, the notched end of the handle portion is inserted in and at least partially through the hole in the slotted end of the body portion, until the notches are generally aligned with the walls of the opening. Third, the folded handle portion is adjusted or allowed to adjust or unfold, trapping the notched end inside the hole.

Insertion of the first or notched end 14 of the bag handle device 10 into the second or slotted end 16 of the device is described in detail below and shown generally sequentially in FIGS. 3-9. The material from which the handle device may be manufactured (such as a flexible and durable polymeric material, such as a high density polyethylene (HDPE), a low density polyethylene (LDPE), or other polymeric or plastic materials, such as resin-based plastic materials, various thermoplastic materials, various thermo-set plastic materials, various fibrous materials impregnated with bonding agents or the like, various plastic materials impregnated with materials to alter physical properties, or any other suitable polymeric or plastic materials or the like) allows for sufficient flexibility to enable a user to fold handle portion 12 along the embossed depressions or fold lines 22a, 22b until the outer edges of the wings 12a are close to or in contact with one another (as shown in FIG. 3). The adjusting or folding of the wings 12a changes the shape of handle portion 12 to facilitate insertion of the first or notched end 14 into the opening or aperture 16a in the second or slotted end 16. With the wings folded in the generally triangular shape, the notched end 14 may be inserted at least partially through the aperture 16a in slotted end 16, as shown in FIGS. 5 and 6. Prior to inserting the notched end 14 through the slotted end 16, the bag handle device 10 may be inserted through or positioned through or in the handles or handle portions 24 of one or more bags, such as plastic bags for carrying groceries or the like, such as shown in FIGS. 8 and 9.

The material of the handle device may retain sufficient resiliency so that the wings 12a may attempt to return to their original configuration when released from the folded form generally shown in FIG. 3. The wings 12a may be released after the notched end 14 of bag handle device 10 has been inserted at least partially through the slot or opening or aperture 16a in slotted end 16 of the bag handle device. When the wings 12a adjust or unfold or return toward their initial unfolded state (as shown in FIGS. 1 and 2), notched end 14 contacts the edges or walls of aperture 16a and may be retained therein via the notches 14a, 14b in

notched end 14 engaging the walls of aperture 16a and limiting or substantially precluding further insertion or retraction of notched end 14 with respect to slotted end 16.

In the illustrated embodiment of FIGS. 1-9, slotted end 16 contains a rectangular-shaped opening 16a that allows the wings 12a of the notched end and handle portion to separate until the notched end and handle portion are approximately U-shaped when viewed along the longitudinal axis. As shown in FIG. 7, the shape of the aperture 16a of the slotted end 16 may cause the notched end 14 and handle portion 12 to assume the intermediate, generally U-shaped configuration, with the wings still partially folded and generally retained in the intermediate configuration via the walls of the aperture 16a. The notches 14a, 14b in the notched end 14 allow the wings to adjust or partially unfold or separate in this manner. When the separation or unfolding of the wings is complete, the notched end fills the hole or opening in the slotted end and extends beyond the hole to the extent of the depth of the notches. As can be seen with reference to FIGS. 6-9, the notched end 14 cannot be readily extracted from the slotted end 16 when the notches 14a, 14b engage or receive the wall or walls of the opening 16a, thereby retaining the handle device 10 in a closed loop that may encompass one or more bag loop handles and the user's fingers and/or palm.

As can be seen with reference to FIG. 9, when bag handle device 10 forms the closed loop and supports one or more bags 24, the body portion 20 may curve to form the loop, while the handle portion 12 may remain generally straight or flat. The upwardly protruding wings may limit flexing or bending of the handle portion, while the narrow and generally flat body portion 20 curves between the handle portion and the slotted end of the bag handle device to form the loop. The device may be manufactured from a semi-flexible plastic polymer and may have a thickness consistent with the physical properties of the polymer to provide the desired rigidity in the foldable handle portion 12 when longitudinally folded in the U-shaped orientation, and to provide sufficient flexibility in the body portion 20 to allow for flexibility and curving of the body portion and to allow for low force insertion of the notched end 14 into the slotted end 16. The handle portion 12 thus may provide a generally flat handle portion for a user to grasp when carrying the bags.

The bag handle device may be opened to its open configuration to release the bags or bag handles from the device. The open configuration is achieved by reversing the above process. While the wings are folded toward one another so that their edges are close to or in contact with one another, the first or notched end may be extracted from the second or slotted end and the bag handle device may be withdrawn from the bag handles. The bag handle

device may then be discarded or disposed of, or may be kept for future use by the customer or returned to the store for future use with another customer.

The bag handle device of the present invention may comprise a one piece structure which can be fabricated by known plastic extrusion and die cutting technology or other similar processes. Following the initial manufacturing process, the handle may typically be generally flat and fully extended or opened which results in one or more flat surfaces. If desired, it is envisioned that a suitable name, logo, or advertising indicia may be added to one or more of the flat surfaces, such as in a subsequent manufacturing process. For example, the bag handle device may be manufactured by various processes which permit lettering to be added to the handle and/or body portion of the device, using various printing and/or embossing methods, for the purpose of identification and/or advertising.

Optionally, the initial manufacturing process may include full separation of the finished bag handle devices from a continuous strip of raw material, such that the bag handle devices are provided to the store separate from one another. Optionally, each finished bag handle device may remain attached to the preceding and subsequently finished bag handle device by means of a common edge which may be perforated or scored or otherwise weakened during the manufacturing process. The bag handle devices may then be provided to the store as a group or bundle of bag handle devices. The perforated edges may be made in such a manner that allows separation of the bag handle devices along the edges at a later time by means of a low-force, manual tearing process. For example, a common edge 26a may be a collocation of the first end and the second end (as shown in FIG. 10) of adjacent bag handle devices, or a common edge 26b may be a collocation of side edges of the wings and ends (as shown in FIG. 11) of adjacent bag handle devices.

The present invention thus may provide a semi-rigid, semi-disposable bag handle device of sheet plastic structure for carrying bags of articles. The bag handle device may comprise a single member formed to enclose a loop for inserting a hand and for enclosing articles or bag handles with a segment strip for protecting the user's hand. The handle or hand loop member includes a closing means for changeably interlocking the ends of the handle member, with the closing means being adjustable to allow the handle member to adjust from a closed position to an opened position and back again. The handle member may further comprise a handle segment for protecting the user's hand, and a connected segment to enclose the loop handles of several bags. The handle member is open when the ends of the handle member are not interconnected, and may be closed when a first formed end is inserted

(such as in a folded position or orientation) into a second formed end and allowed to expand or adjust to secure the ends together.

Referring now to FIGS. 12-19, a bag handle device 110 may include a widened handle portion or region 112 having a slotted end 116, a tabbed end 114 opposite the slotted end 116, and a middle or connecting or body portion 120 extending between handle portion 112 and tabbed end 114. Tabbed end 114 includes a tab or widened end portion 114a which generally defines a generally T-shaped end, while slotted end 116 includes a generally T-shaped opening or aperture 117 having a longer aperture section or portion 117a and a shorter aperture section or portion 117b generally transverse or orthogonal to the longer aperture section 117a. The material from which the handle device may be manufactured may allow for sufficient flexibility to enable a user to insert the tab 114a through the longer aperture section 117a and to adjust or twist or rotate the tabbed end 114 to position the body portion 120 within the shorter aperture section 117b, whereby the tab 114a (which is wider than the length of the shorter aperture section 117b) limits or substantially precludes the tabbed end 114 from being readily withdrawn from the shorter aperture section 117b of the slotted end 116. Preferably, the handle portion 112 of bag handle device 110 is sufficiently long enough to accommodate the four fingers and/or palm of a user when the bag handle device is formed to a closed loop with one or more bag handles positioned thereon.

The width of the tab 114a and the dimensions of the T-shaped aperture 117 are selected such that the longer aperture section 117a (the base leg of the "T" in the illustrated embodiment) in the slotted end 116 of the bag handle device is long enough to accommodate the width of the tab 114a, while the shorter aperture section 117b (the cross top of the "T" in the illustrated embodiment) in the slotted end 116 of the bag handle device is long enough to accommodate the width of the narrowed body portion 120, but is shorter than the width of the tab 114a. The width of the handle portion 112 may be greater than the width of the tabbed end or portion 114, and may be approximately twice the width of the tabbed end portion. Optionally, as shown in FIGS. 20 and 21, the tabbed end or portion and the handle portion may have generally the same width, which may ease the manufacturing of the handle devices.

The bag handle device 110 may be inserted through the handles of one or more bags and may be closed to form a closed loop through the bag handles. As can be seen with reference to FIG. 15, the body portion or segment 120 of handle device 110 may be longer than the handle portion 112 (such as, for example, approximately 1½ times the length of the handle portion or segment). The length of the handle device and of the narrowed body portion may be sufficient to allow the inherent flexibility of the material to describe or define

or form an arc between the ends of the handle portion that may be sufficient to accommodate or allow insertion of four fingers and/or palm of a user inside the arc of the closed loop plus the material of one or more bag loop handles 124 (FIGS. 14 and 15).

The bag handle device may be closed to form the closed loop in three steps. First, the tabbed end and body portion may be adjusted or rotated or twisted longitudinally approximately 90 degrees. Second, the tabbed end of the second segment may be at least partially inserted through the base leg of the T-shaped slot in the slotted end of the body portion and far enough for the tab to extend fully through the slot. Third, the tabbed end and body portion may be adjusted or twisted or rotated longitudinally approximately 90 degrees in the opposite direction of the original rotation, which moves or establishes the narrow body portion into the cross top of the T-shaped slot. The tabbed end may then be drawn back through the T-shaped slot until the tabbed end rests against the flat surface of the slotted end.

Insertion of the tabbed end 114 of the handle device into the T-shaped slot 117 of the slotted end portion 116 forms the handle device into a generally closed loop when in its closed configuration, as shown in FIGS. 14 and 15. The insertion of the tabbed end into the T-shaped slot and retention of the tabbed end within the slot is accomplished by adjusting or rotating the tabbed end 114 and tab 114a approximately 90 degrees from its position of rest and inserting the tabbed end into the base leg portion or longer aperture section 117a of the T-shaped slot 117 until the tab 114a extends or protrudes from the other side of the slotted end 116. The tabbed end may be adjusted to a closed configuration to retain the handle device in the closed loop by adjusting or rotating the tabbed end approximately 90 degrees and moving or allowing the narrowed portion 120 of the handle device to enter the cross top or shorter aperture section 117b of the T-shaped slot 117. The material and thickness of the bag handle device may be selected to allow the slotted end 116 to flex to allow the tabbed end and body portion to be inserted therethrough and adjusted from one of the aperture sections to the other.

Because the tab 114a is wider than the shorter aperture section 117b, the tab limits or substantially precludes readily removing the tabbed end from the slotted end, thereby retaining the handle device 110 in the closed loop around or through the bag handles. The tabbed portion may be removed from the slotted end to adjust the handle device to its open configuration by reversing the above process and rotating or adjusting the tabbed portion to align the tab with the longer aperture section 117a of the T-shaped slot 117.

The thickness of the bag handle device at both end portions 114, 116 may be generally the same or constant. Optionally, as shown in FIGS. 12, 13 and 18, a portion 115

of the edges of the tab 114a may have an increased thickness, such as a narrow band of material approximately twice the thickness of the main body 120 of the bag handle device 110. The border of material may follow the edge of the tabbed end in the area of the transition between the narrow body portion or segment and the tab. Also, as shown in FIGS. 5 12, 13 and 19, a border or portion 117c of the edges of the T-shaped slot 117 may also have an increased thickness, such as a narrow band of material approximately twice the thickness of the main body 120 of the bag handle device. The increased thickness at the edge of the tab and the edges of the slot may provide enhanced strength and durability to the bag handle device in areas where the bag handle device may be subjected to high stress during use.

10 In operation, the bag handle device may be inserted through the handles of one or more bags and then closed. The handle portion may be laid across the palm of the user's hand, whereby the user may close their hand, resting the thumb of their hand on the tabbed end of the body portion in a manner that causes the tabbed end to lay generally flat against the surface of the handle portion during the load bearing phase of use. Alternately, the user 15 may allow the tabbed end of the bag handle device to extend at an angle from the surface of the handle portion by a different position of their thumb during the load bearing phase of use.

Similar to bag handle device 10, discussed above, the manufacturing process of bag handle device 110 may include full separation of the finished devices from a continuous strip of raw material. Optionally, each finished handle device may remain attached or partially 20 attached to the preceding and subsequent finished handle device by means of a common edge which may be perforated, scored or otherwise weakened during the manufacturing process. Such perforation may be made in such a manner that allows separation of the devices at a later time by means of a low-force, manual tearing process. The weakened common edge may be a perforated edge 126a along a collocation of the end of one bag handle device with 25 the end of another bag handle device (FIG. 20), or a perforated edge 126b along a collocation of side edges of two bag handle devices (FIG. 21).

30 Optionally, the shape of the tabbed end portion, handle portion and slotted end portion of the bag handle device of the present invention may be modified from the embodiments shown in FIGS. 1-21 and described above, without affecting the scope of the present invention. For example, and as shown in FIG. 22, a bag handle device 110' may include a rounded tab 114a' at a tabbed end 114', whereby the tab 114a' is insertable through an opening or aperture 117' at a slotted end 116' of the bag handle device 110'. As can be seen with reference to FIG. 22, the tab 114a' may be adjusted or twisted or turned to fit through the longer aperture section 117a', and then twisted or turned back, such that a neck region 114b'

of the tabbed end 114' fits within or rests within a shorter aperture section 117b' of aperture 117'. In the illustrated embodiment, the tabbed end 114' is adjacent to the handle portion 112', while the slotted end 116' is adjacent to the narrow body portion 120'. The tab 114a' may be rounded (as shown in FIG. 22) or may have a pointed or squared end or may have any other shape or form, without affecting the scope of the present invention. The narrow neck region 114b' at tabbed end 114' allows the shorter aperture section 117b' to be shorter than the width of the body portion 120', such that the overall width of the slotted end 116, and thus of the handle portion 112' and tabbed end 114', may be reduced to streamline the bag handle device. As can be seen with reference to FIG. 22, the overall width of the tab 114a', the handle portion 112' and the slotted end portion 116' may be approximately the same, in order to ease manufacturing of the bag handle device 110'. The bag handle device 110' is otherwise substantially similar to the bag handle device 110 and is interlocked in its closed position in substantially the same manner, such that a detailed description of the bag handle device and method of use will not be repeated herein.

Following the initial manufacturing process, the handle device or devices of the present invention may typically be substantially flat and fully extended which results in flat surfaces along the device. If desired, a suitable name, logo, or advertising indicia may be added, such as in a subsequent manufacturing process, to one or more of the flat surfaces. For example, the bag handle device may be manufactured by various processes which permit lettering to be added to the handle portion and/or body portion of the device, such as by using various printing and/or embossing methods, for the purpose of identification and/or advertising or the like. As discussed above, the handle device of the present invention comprises a one piece or unitary member or structure which can be fabricated by well known plastic extrusion and die cutting technology or other similar processes.

The present invention thus provides a semi-rigid, semi-disposable handle device of sheet plastic structure for carrying articles. The handle device comprises a single member having a first end and a second end formed to enclose a loop for inserting a hand and for enclosing bags or articles with a handle segment or strip for protecting the user's hand. The handle or loop member includes a closing means for interlocking the first and second ends of the member. The handle or loop member comprises a handle segment or portion for protecting the user's hand, and a connected segment or portion to enclose the loop handles of several bags. The handle member is open when the first and second ends of the member are not interconnected, and may be closed when the first formed end is inserted into the second formed end and is adjusted or rotated or allowed to adjust into a locking position. When the

handle member is in the opened or non-looped position, the member may be placed through the opening of article loop handles of one or more bags. When the handle member is in the looped or locked position, the first and second ends are inserted and interlocked and the handle member fully circumscribes the openings of article bag loop handles. The handle device or loop member is substantially retained in the closed loop form during transportation of the bags via a locking means or locking mechanism integral with the handle device or member.

Referring now to FIGS. 23-26, a dispensing container 30 may be provided at the bagging area of the store or facility for dispensing the bag handle devices (particularly for applications when the bag handle devices are provided as separate items, and not interconnected together along adjacent sides or ends). In the illustrated embodiment, the dispensing container 30 includes a container portion 32 having an open upper end 34, and a mounting portion or tab or flap 36 for mounting the container 30 to a bracket or wall portion or the like 38 (FIG. 23), such as the existing bag dispensing bars or the like typically present at the bagging area of stores.

As can be seen with reference to FIGS. 24-26, the mounting flap 36 may include an aperture or opening 36a therethrough for receiving a mounting pin or member 40 extending or protruding from a rear wall 32a of container portion 32. The aperture 36a may be sized to be smaller than the head portion of the pin 40 and may include a slotted portion 36b to allow insertion of the larger head portion of the pin 40 through the aperture, whereby the head portion retains the pin 40 in the aperture to retain the mounting flap 36 in position at the rear wall 34a of the container.

Multiple bag handle devices may be placed within the container portion 32 and may be readily accessible and retrievable from the open upper end 34 of the container portion. The front wall 32b and side walls 32c of the container portion may be substantially flat and may provide one or more surfaces for applying or placing graphics, such as logos, advertisements or the like, thereon. For example, the dispensing container 30 may be manufactured by various processes which permit lettering to be added to one or more walls of the container, such as by using various printing and/or embossing methods, for the purpose of identification and/or advertising or the like. The dispensing container may comprise a polymeric material which may provide sufficient flexibility in the container and in the mounting flap, and which may provide a low cost and lightweight container for holding and dispensing the bag handle devices of the present invention.

Therefore, the present invention provides a bag handle device which may insert through and carry multiple bags. The bag handle device may comprise a lightweight, flexible polymeric material and may be disposable or may be reused if desired. The bag handle device comprises a unitary plastic member which may be inserted through the handle portions of bags and generally locked in a closed loop to retain the bags on the handle device during transportation of the bags by a user of the bag handle device. The bag handle device may be readily locked in the closed loop and may be readily unlocked to release the bags after the bags have been transported to the desired destination. The bag handle device may be dispensed from a dispensing container mounted to the bag dispensing frame at the store.

The invention being thus described, it will be obvious that the same may be varied in many ways. Such variations are not to be regarded as a departure from the spirit and scope of the invention, and all such changes and modifications as would be obvious to one skilled in the art are intended to be included within the scope of the appended claims.